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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,228	11/07/2001	Deborah S. Schnur	I69.12-0507	6958
164	7590	09/04/2003		
KINNEY & LANGE, P.A. THE KINNEY & LANGE BUILDING 312 SOUTH THIRD STREET MINNEAPOLIS, MN 55415-1002			EXAMINER CASTRO, ANGEL A	
			ART UNIT 2653	PAPER NUMBER 16
			DATE MAILED: 09/04/2003	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/008,228	SCHNUR ET AL.
	Examiner	Art Unit
	Angel A Castro	2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 6,11,12,14-16 and 20-24 is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-5, 7-10, 13, 17-19 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/22/03 has been entered.

Election/Restrictions

2. Claims 6, 11-12, 14-16, 20-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 14.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 7-10, 13, 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokuyama et al (U.S. Pat. 5,223,998).

Regarding claim 1, Tokuyama et al discloses a slider for supporting a transducing head proximate a rotating disc 100 (figures 17-19), the slider comprising:

a slider body 1, including a primary air bearing 3, 22 and a secondary air bearing 62, the slider body having a disc opposing face bounded by a leading edge 11 and a trailing edge 12 wherein the transducing head 61 is located on the disc opposing face proximate the trailing edge and on the secondary air bearing 62; and

means 92 for permitting vertical movement of the transducing head with respect to the slider body in response to local disc, surface topography to maintain head media spacing (HMS) between the transducing head and the disc substantially constant as the slider flies above the disc wherein the means are exposed at the disc opposing face.

Regarding claim 2, Tokuyama et al discloses that the means 92 for permitting vertical movement of the transducing head is an interface connecting the primary air bearing to the secondary air bearing (see figure 17).

Regarding claim 3, Tokuyama et al discloses that the interface 92 displaces the secondary air bearing vertically with respect to the primary air bearing (column 12, lines 28-34).

Regarding claim 4, Tokuyama et al discloses that the interface 92 substantially surrounds the secondary air bearing (see figure 17).

Regarding claim 5, Tokuyama et al discloses that the interface 92 is less stiff than the primary air bearing (element 92 is a leaf spring).

Regarding claims 7 and 17, Tokuyama et al discloses a slider for supporting a transducing head proximate a rotating disc (figures 21-22), the slider comprising:

a primary air bearing 3, 22, having a disc opposing face bounded by a leading edge and a first trailing edge wherein an air bearing surface is defined on the disc opposing face;

a secondary air bearing 95 having a disc opposing face bounded by a front edge and a second trailing edge wherein the air bearing surface is defined on the disc opposing face, the air bearing surface having a pad proximate the second trailing edge wherein the transducing head is located on the pad (see figure 22); and

an interface 96 having a disc opposing face, the interface connecting the secondary air bearing to the primary air bearing wherein the interface displaces the transducing head vertically with respect to the primary air bearing to maintain head media spacing (HMS) between the transducing head and the disc substantially constant as the slider flies above the disc.

Regarding claims 8 and 18, Tokuyama et al shows that the interface substantially surrounds the secondary air bearing (see figures 21-22).

Regarding claims 9 and 19, Tokuyama et al discloses that the interface is less stiff than the primary air bearing (column 12, lines 66-68).

Regarding claim 10, Tokuyama et al discloses that the primary and secondary air bearings comprise a first material (the material of the slider) and the interface comprises a second material (leaf spring), the first material being more stiff than the second material.

Regarding claim 13, it is inherent in the reference to Tokuyama that the pad modulates in response to local disc surface topography to maintain the HMS substantially constant (the magnetic head being in contact with the surface of the disk, therefore the HMS is maintained substantially constant).

Response to Arguments

5. Applicant's arguments with respect to claims 1-5, 7-10, 13 and 17-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lewis et al (US006570730B1) discloses a shear-based transducer for HDD read/write element height control; Yanagisawa (US006487045B1) discloses a magnetic disc apparatus; Novotny (US006289564B1) discloses a method of making a piezoelectric microactuator; Kasahara (U.S. Pat. 5,764,432) discloses a recording and reproducing head slider; Matthews (U.S. Pat. 4,605,977) discloses an air bearing head displacement sensor and positioner.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel A Castro whose telephone number is 703-308-8435. The examiner can normally be reached on Monday through Thursday, 8 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R Korzuch can be reached on 703-305-6137. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.


Angel Castro, Ph.D.